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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/083,974

02/27/2002

Stuart Corr

INE 110

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7590

05/04/2005

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,974

Applicant(s)

CORR ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2003.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 19 and 21-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 19 and 21-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) for the following reasons:

(1). The reference character "13" has been used to designate both as "pump 13" in line 3 of page 11, and as "condenser/receiver 13" in line 1 of page 11, para [0046] .

(2). The reference numerals "13" and "14" both are designated as a pump. See page 11 lines 2 and 3 respectively.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

[Applicants should further check the specification and drawings such that no different numbers refer to the same part or vice versa, i.e., no different parts are referred to by the same number].

The specification had not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax

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and etc. Applicant's cooperation are requested in correcting any errors of which applicants may become aware in the specifications.

The disclosure is objected to because of the following informalities: The term "vapour " numerous recited in the application should be --vapor--as the latter is the term normally used in the U.S.

Claims 1-14, 19 and 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) The preambles of claims 1 and 19 recite as "Apparatus for extracting biomass", and "A" method of extracting biomass..." , however the body of these claims include both an evaporator and a condenser thereby defining a distillation apparatus and distillation method respectively.

[Distillation is a unit of operating that is distinct with extraction. The latter is a unit of operation based on solubility and material characteristics, whereas, the former is a unit of operation based on boiling point characteristics].

(b) The recitation in claim 1 of "a condenser for condensing solvent evaporated in the condenser..." provides for ambiguity. The latter condenser should be -- evaporator - .

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 19 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's disclosure of admitted Prior art in view of Mar (5,776,319).

Applicants admit at page 3, paragraphs [0010] and [0011] a "...Known extraction processes ... normally carried out in closed -loop extraction equipment. A typical example 10 of such a system is shown schematically in Figure 1.

In this typical system, liquefied solvent is allowed to percolate by gravity in downflow through a bed of biomass held in vessel 11. Thence it follows to evaporator 12 where the volatile solvent vapor is vaporized by heat exchange with a hot fluid. The vapour from evaporator 12 is then compressed by compressor 13. The compressed vapor is next fed to a condenser 14 where it is liquefied by heat exchange with a cold fluid. The liquefied solvent is then optionally collected in intermediate storage vessel (receiver) 15 or returned directly to the extraction vessel 1 to complete the circuit..."

The apparatus and process of claim 1 and claim 19 differ from the claimed invention in that in that claim 1, for example recites "...means for moving solvent from the condenser to the extraction vessel to the evaporator, without compressing a vapour phase.."; and "...wherein the outlet of the condenser includes a liquid lute operatively connected in series therewith..".

However, the above limitations are known in the art as taught by Mar. See e.g., Fig .3 of Mar which operates without a compressor, i.e., the fluid flows from a condenser (34) directly to the extractor (26) and to the distiller (24) without compression of the vapor phase. See further col. 5, lines 44-66 through col. 6, lines 1-14 for the claimed

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lute. To incorporate the above teachings of Mar to the apparatus and method admitted to be known by applicants would have been obvious to one of ordinary skill in the art for the advantages taught at col. 5, lines 50-58 of Mar. That is, Mar teaches "conventional recycling means such as a tube run from an outlet of the condenser to the distillation could be utilized..that it is preferable to enhance extraction efficiency by allowing condensed solvent to pass back into the extraction medium, travel downwardly through the extraction chamber (26) while extracting solute and back into the distillation chamber (24) for continuity. One or more apparatus can be formed in the baffle (22) to provide for this solvent return. However, in order to control the ability of solvent to pass through the baffle, it is preferable to use a valve that allows the condensed solvent return passage to be opened and closed..."

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) Low discloses as apparatus and method for extracting biomass.

(b) Surprenant discloses a method and apparatus for producing solvent vapors and simultaneously purifying the solvent.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-271-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Manoharan/af  
April 29, 2005

  
V. MANOHARAN  
PRIMARY EXAMINER  
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